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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/974,958	10/10/2001	Vernon M. Williams	501062.01	7582

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EXAMINER

DAVIS, ROBERT B

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/974,958

Applicant(s)

WILLIAMS ET AL.

Examiner

Robert B. Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,8,12,15,17,18,20-22,24,25,29,33,36,38,40-42,44,45,49,53,56,58 and 60 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>see cont. sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Disposition of Claims: Claims withdrawn from consideration are 2,5-7,9-11,13,14,16,19,23,26-28,30-32,34,35,37,39,43,46-48,50-52,54,55,57 and 59.

Continuation of IDSs: 4/21/03, 5/14/03, 10/18/04 and 5/16/05.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Species B1 in the reply filed on January 13, 2006 is acknowledged.
2. Claims withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected 2,5-7,9-11,13,14,16,19,23,26-28,30-32,34,35,37,39,43,46-48,50-52,54,55,57 and 59, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on January 23, 2006.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 8, 12, 15, 17, 18, 20, 21, 24, 29, 33, 36, 38, 40, 41, 44, 53, 56, 58, 60 are rejected under 35 U.S.C. 102(b) as being anticipated by Kurihara et al (Japanese reference 02-148816 A: figures 1-3 and the English abstract).

Kurihara et al teach a leadframe (1) having a coating of a mold release agent such as fluorine mold release agent or silicone oil, and a mold (3), having a pot (7), opposed mold halves (4, 5) and a plunger (8). The leadframe is coated with the release agent or lubricant to prevent adherence of the molding resin at specific points of the

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leadframe. The abstract states that the mold is heated and it is therefore inherent that mold heaters are used.

5. Claims 1, 3, 8, 12, 15, 17 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto (04-079357 A: abstract and figures 1-2).

Yamamoto teaches a leadframe (1) that is coated by gold or silver plating, wherein the plating acts as a release agent to prevent encapsulating resin from adhering to specific portions of the leadframe.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 21, 24, 29, 33, 36, 38, 40, 41, 44, 53, 56, 58 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto taken together with Kurihara et al.

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Yamamoto discloses all claimed features except for the specifics of the transfer mold.

Kurihara et al disclose the specifics of an injection molding transfer mold as disclosed supra.

It would have been obvious at the time of the invention to one of ordinary skill in the art to modify the apparatus of Yamamoto by supplying a resin transfer mold having a cavity, pot, injection ram and heater as disclosed by Kurihara et al as such a mold was well known in the art to package a semiconductor device mounted on a leadframe to prevent heat insulation and to protect the chip from dust and moisture.

9. Claims 4, 25, 42 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto taken together with Osada (4,862,586: figures 1 and 2 and column 5, lines 5-22).

Yamamoto discloses all claimed features except for treatment of the leadframe on both surfaces and the mold having a vent opposite the mold cavity from a gate.

Osada discloses an injection mold for packaging a semiconductor element of on a leadframe comprising surface treatment of the leadframe on both surfaces of the leadframe for affecting relative adhesion of the resin to the leadframe and a vent (12) located opposite of a gate (11).

It would have been obvious at the time of the invention to one of ordinary skill in the art to modify the apparatus of Yamamoto by providing an air vent opposite an injection gate as disclosed by Osada for the purpose of allowing the injected resin to push air and volatiles out of the mold cavity upon injection of the resin into the mold. It

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would have been obvious at the time of the invention to one of ordinary skill in the art to modify the leadframe of Yamamoto by supplying adhesion treatment to both surfaces of a leadframe as disclosed by Osada for the purpose of equal treatment of the leadframe with respect to the adhesion of the injected potting material.


Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert B. Davis whose telephone number is 571-272-1129. The examiner can normally be reached on Monday-Friday 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Robert B. Davis
Primary Examiner
Art Unit 1722

4/3/06